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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,492	02/25/2004	Mario Linke	IR-2455 (2-3840)	7302
2352	7590	09/26/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			VORTMAN, ANATOLY	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/787,492	LINKE, MARIO	
	Examiner	Art Unit	
	Anatoly Vortman	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's Reply

1. The submission of the Applicant's Reply filed on July 24, 2006 is hereby acknowledged.

Claim 1 has been amended. The Office action follows:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US/4,395,673 to Kurz or, alternatively, over Applicant Admitted Prior Art (AAPA), each taken with US/2003/0133267 to Beihoff et al. (of record).

- Regarding claim 1, Kurz disclosed (see Fig.) an integrated active rectifier module (D1-D3, TH1-TH3) for supplying recharging power to a battery (BAT) of an automobile, wherein a plurality of active rectification circuits (D1-D3, TH1-TH3) each connectable to a respective phase (W1-W3) of a stator to rectify the power output thereof, but did not disclose that said integrated active rectifier module comprises: a base plate; a plurality of substrates attached to

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said base plate; wherein power elements for an active rectifier mounted on one of said substrate; elements for a voltage regulator mounted on another substrate; and elements for driving said power elements mounted on another substrate.

AAPA disclosed (Fig. 1) an integrated active rectifier module for supplying recharging power to a battery (14) of an automobile, wherein a plurality of active rectification circuits (22) each connectable to a respective phase (20) of a stator to rectify the power output thereof, but did not disclose that said integrated active rectifier module comprises: a base plate; a plurality of substrates attached to said base plate; wherein power elements for an active rectifier mounted on one of said substrate; elements for a voltage regulator mounted on another substrate; and elements for driving said power elements mounted on another substrate.

Beihoff et al. disclose an integrated active rectifier module comprising; a base plate (12); a plurality of substrates (14, 34, 36, 38) attached to said base plate (see schematic in figure 2, and the perspective views in figure 11-13); power elements (130) for an active rectifier (paragraph [0067], middle) mounted on one of said substrate (14); elements for a voltage regulator mounted on another substrate (38); and elements for driving said power elements mounted on another substrate (34) for the purpose of providing a highly efficient and cost-effective power capabilities in small, robust, and thermally managed configuration (see paragraph [0007]).

Since inventions of Kurz, AAPA, and Beihoff et al. are from the same field of endeavor, the purpose of the package structure taught by Beihoff would be recognized in the invention of Kurz and AAPA.

It would have been obvious to a person of ordinary skill in the relevant art at the time the invention was made to provide said active rectifier module of Kurz or AAPA in a package as

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taught by Beihoff et al. in order to provide highly efficient and cost-effective power capabilities in a small, robust, and thermally managed configuration (see paragraph [0007] of Beihoff et al.).

- Regarding claim 2, Beihoff et al. further disclose a first lead frame (134), and a first lead frame support (126), said lead frame being supported on said first lead frame support over said plurality of substrates (see figure 11).

- Regarding claim 3, Beihoff et al. further disclose that the lead frame support is attached to the base plate (figure 11).

- Regarding claim 4, Beihoff et al. further discloses that the lead frame support surrounds said plurality of substrates.

- Regarding claim 5, Beihoff et al. further disclose a second lead frame (136), and a second lead frame support (122), said second lead frame being supported above said first lead frame by said second lead frame support.

- Regarding claim 6, Beihoff et al. further disclose that the first lead frame is used to connected a phase of a stator to said active rectifier and said second lead frame serves as an output lead frame for said active rectifier (paragraphs [0056] and [0070]).

- Regarding claim 7, Beihoff et al. further disclose that the substrates are attached to said base plate by a flexible adhesive ('180' in figure 18, also see description of '180' in paragraphs 0081 and 0082 alluding to expansion mismatch of adherents being accommodated by the layer '180' to reduce stresses, making the layer 'flexible').

- Regarding claim 8, Beihoff et al. further disclose a heat sink ('148'+ '160' in figure 15A) in thermal contact with said base plate.

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- Regarding claim 9, Beihoff et al. further disclose a conductive block ('148', figure 14) on at least one of said substrates (14), said conductive block extending above said substrate.

Response to Arguments

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal line extending from the end of the signature towards the right.

Anatoly Vortman
Primary Examiner
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